Old disease, new threat: driving an end to cholera

WaterAid/Chileshe Chanda

Using sustainable improvements in access to water, sanitation and hygiene to end cholera

WaterAid

Cholera is a disease of inequality, an indicator of poor living conditions often lacking water, sanitation and hygiene (WASH). *Old disease, new threat*, completed in February 2020, intended to shed light on this historical disease as it remains a new threat among the most vulnerable populations.

The world is now confronting the COVID-19 pandemic, which has exacerbated multiple dimensions of inequality – economics, gender, quality of care and access to WASH. Hand hygiene has been recognised in WHO guidance as a first line of defence against COVID-19 and has always been a critical prevention measure against cholera and other diseases. It is time for 'no regrets' actions for WASH, to build resilience to health crises and leave no one behind.

WaterAid/Joey Lawrence

Recommendations

- Governments in high-burden countries should elevate cholera as a public health priority requiring action by multiple sectors through strengthening multi-stakeholder coordination platforms, under the leadership of the highest levels of government.
- Countries affected by regular outbreaks of cholera should update their national plans, in line with the new global roadmap to end cholera.
- Governments and partners should strengthen data systems and identify the populations most at risk for cholera, in order to better target hotspots incrementally with priority and integrated cholera control interventions.
- The WASH sector in cholera-affected countries should prioritise and target cholera hotspots for improvements in long-term sustainable WASH.
- Governments should look beyond emergency control measures and develop plans that integrate long-term WASH system improvements.
- WASH actors should be an integral part of the development of cholera plans, and actively engage in regular coordination meetings and platforms at national, provincial and local levels.
- Costs for improving WASH infrastructure and behaviours – both in households/communities and institutions – should be factored into budgets for cholera control and prevention.
- All national plans should include a detailed implementation framework, with key activities, indicators and targets alongside specific timelines.

Contents

Introduction

The continued presence of cholera in the 21st century is a stark reminder of the huge inequalities that persist globally between and within countries around access to WASH.

A disease of inequity, cholera is an acute diarrhoeal disease that disproportionally affects the poorest and most vulnerable communities, in particular those who lack access to basic WASH services. Around the world, cholera cases are rising with outbreaks becoming increasingly severe and protracted – compounded by climate change, urbanisation, migration and conflict. In 2018, almost 500,000 cholera cases and nearly 3,000 deaths were reported to the World Health Organisation (WHO). However, this represents a significant underestimate of the true burden of disease, due to weaknesses in surveillance systems and a lack of official reporting by some countries.[1] Indeed, estimates from researchers suggest much higher numbers with around 2.9 million cases and 95,000 deaths of cholera occurring globally every year.[2]

Unlike many diseases, outbreaks of cholera are largely predictable and entirely preventable. Cholera tends to occur in relatively small geographical areas, called 'hotspots', where the disease persists or re-appears regularly.* For example, in sub-Saharan Africa, 90% of the burden of cholera is concentrated in hotspots, representing approximately 4% of the total population.[3] This makes the goal of ending cholera within reach through concerted efforts to improve access to WASH, alongside other critical cholera control interventions, targeted to hotspots.

In response to the growing public health threat posed by cholera, the Global Taskforce on Cholera Control (GTFCC) launched a new roadmap to end cholera by 2030, with the aim of reducing cholera deaths by 90% and eliminating the disease in as many as 20 countries.[4]

The new global roadmap to end cholera by 2030 has three inter-connected axes:

1. Early detection and quick response to contain outbreaks.
2. A targeted multi-sectoral approach to prevent cholera recurrence.
3. An effective mechanism of coordination for technical support, advocacy, resource mobilisation and partnership at local and global levels.

Central to the achievement of the global roadmap is a coordinated, multi-sectoral response at national and sub-national levels. Cholera efforts to date have traditionally focused on short-term reactive responses to outbreaks with insufficient attention to long-term prevention, including adequate prioritisation of improvements in sustainable WASH services.

**Cholera Surveillance definitions, GTFCC – Cholera hotspots are relatively small geographical areas (city, administrative level 2 or health district catchment area) where environmental, cultural and/or socioeconomic conditions facilitate the transmission of the disease and where cholera persists or re-appears regularly. Hotspots play a central role in the spread of the disease to other areas (GTFCC).*

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Aim of the study

Two years following the launch of the global roadmap, it is important to understand progress towards its translation at a national level in high-burden countries, in order to help inform gaps, challenges and priority actions.

As such, this study aims to analyse the extent to which existing and new plans (including National Cholera Plans (NCPs) or strategies for prevention and control and, where NCPs are unavailable, preparedness and response plans), are driving a multi-sectoral approach to end cholera. In particular, the analysis focuses on two aspects of this – namely the enabling environment necessary to support cross-sectoral approach between health, WASH and other sectors, and the degree to which improvements in long-term sustainable WASH services are prioritised and integrated into cholera control efforts.

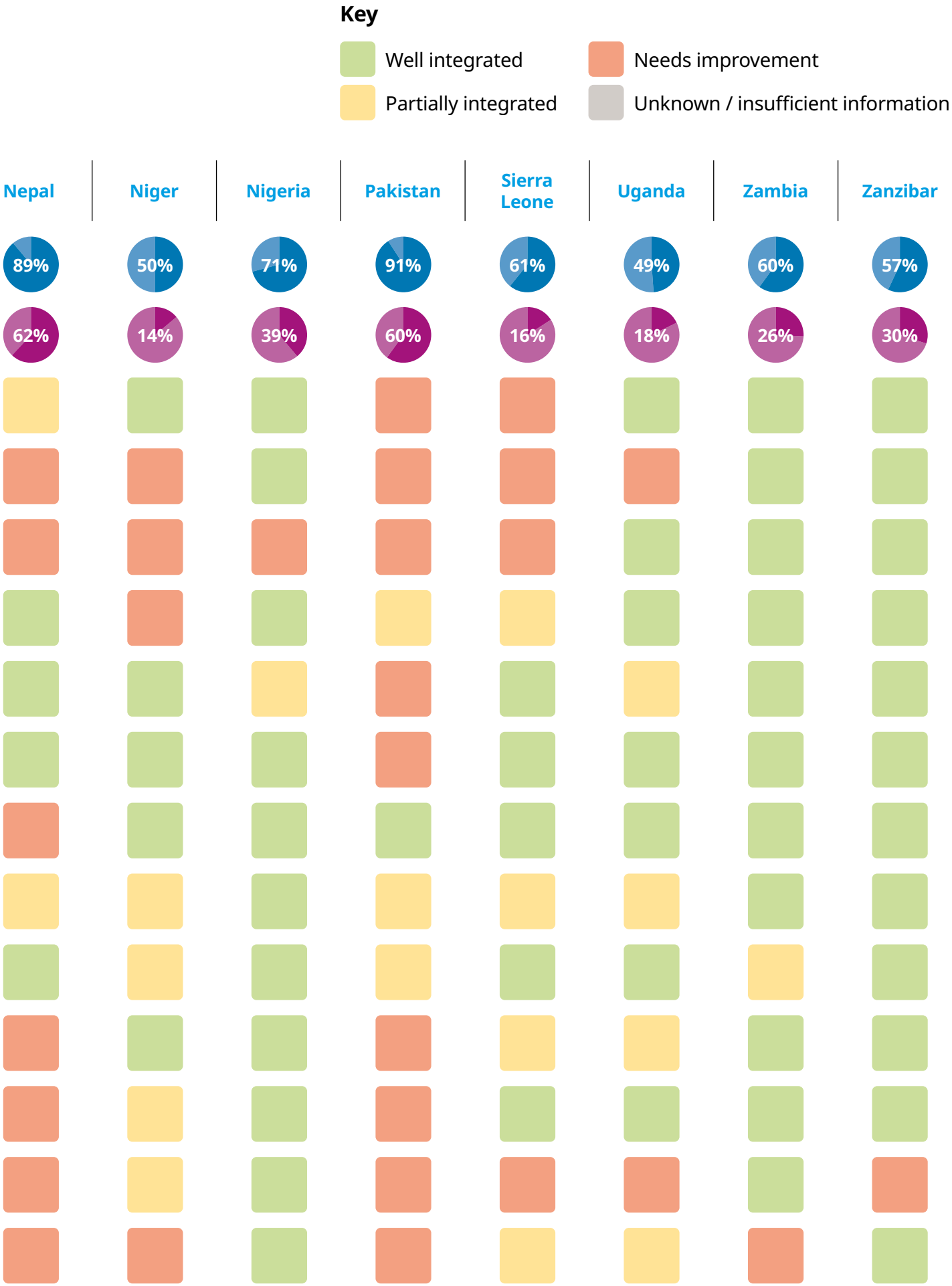
Methodology

The study analysed national plans in cholera-affected countries where WaterAid works, to assess the extent to which WASH is integrated and coordinated alongside other cholera control interventions. The plans were analysed against nine WASH-related criteria and four criteria relating to the broader enabling environment and leadership required to support and drive a multi-sectoral response. A total of 13 plans, including NCPs, strategies for prevention and control, and preparedness and response plans, were analysed. The plans were then graded using a traffic light analysis against each of the 13 criteria, whereby green indicated yes/well integrated; yellow for partially; and red to show more progress is needed.

Findings

Criteria* / Country	Bangladesh	Ghana	Malawi	Mali	Mozambique
Access to at least basic drinking water	97%	81%	69%	78%	56%
Access to at least basic sanitation	48%	18%	26%	39%	29%
Hotspots/key populations at risk identified?					
Plan aligned with the GTFCC global roadmap to end cholera?					
Leadership of cholera under the President/Prime Minister's office?					
Multi-sectoral & multi-stakeholder coordination for infectious diseases exist?					
WASH Ministries engaged in National Cholera Taskforce/coordination structures?					
Is WASH included in background/situational analysis?					
WASH objective included as an overarching/key objectives of the plan?					
Comprehensive WASH interventions included?					
WASH roles and responsibilities defined?					
WASH indicators and targets included?					
WASH budget included?					
WASH & OCV integrated approaches defined?					
Detailed Implementation plan included?					

*See page 8 for National Cholera Plans included in this analysis


Key
Well integrated
Needs improvement
Partially integrated
Unknown / insufficient information
Nepal
Niger
Nigeria
Pakistan
Sierra Leone
Uganda
Zambia
Zanzibar
89%
50%
71%
91%
61%
49%
60%
57%
62%
14%
39%
60%
16%
18%
26%
30%

Characteristics of plans

Differences in the epidemiology of cholera have led to the development of two broad categories of cholera plans – those more focused on outbreak response and emergency preparedness (i.e. Ghana and Mozambique), and others that are more targeted towards long-term prevention and elimination of cholera (i.e. Zambia or Zanzibar). Of the 13 countries included in the analysis, four countries (Ghana, Mozambique, Nepal, Pakistan) had outbreak response plans, while nine had more comprehensive longer-term prevention plans.

All 13 countries included in the analysis have faced regular and repeated cholera outbreaks for many years. This calls into question the need for these countries to have longer-term plans in place that move beyond immediate response needs, and include the necessary actions, frameworks and mechanisms to plan for and implement sustainable long-term approaches to cholera prevention. In line with the three axes of the global roadmap, this should include: a section on outbreak response, which is linked to a broader strategy to prevent the recurrence of the disease over time; and the coordination mechanisms needed to support a comprehensive multi-sectoral approach.

Assessed Cholera Plans

Bangladesh: *National Cholera Control Plan for Bangladesh 2019-2030 (June 2019) – Draft.*

Ghana: *Standard Operating Procedures for the prevention and control of cholera in Ghana – Draft (Second Edition April 2016).*

Malawi: *National Cholera Prevention and Control Plan (2017) – Draft 3.0.*

Mali: *Plan national triennal de prevention et de riposte contre le cholera et les autres maladies diarrheiques 2013-2015.*

Mozambique: *Multisectoral Emergency Response Plan – Cholera 2017.*

Nepal: *National Preparedness and Response Plan for Acute Gastroenteritis/Cholera Outbreaks in Nepal July 2017 to July 2022 AD.*

Niger: *Plan stratégique multisectoriel d'élimination du cholera au Niger 2015-2019.*

Nigeria: *National Strategic Plan of Action on Cholera Control (2018-2023) (draft version 3.0).*

Pakistan: *Proposal for Emergency Response to Cholera Outbreak in Pakistan (August – December 2010).*

Sierra Leone: *Multi-sectoral multi-year cholera preparedness and response plan (2013-2017).*

Uganda: *National Integrated Comprehensive Cholera Prevention and Control Plan (2017-18 – 2021/22).*

Zambia: *Comprehensive Cholera Elimination Plan (2018/19 – 2027/28).*

Zanzibar: *Zanzibar Comprehensive Cholera Elimination Plan (ZACCEP) 2018-2027.*

Section 1: Enabling environment for multi-sectoral action

Implementing a multi-sectoral approach to cholera requires a set of interrelated functions and structures that support coordinated planning, implementation, monitoring, evaluation and review across government ministries, departments and external partners in health, WASH, education, and other relevant sectors. Four of the 13 criteria relate to the broader enabling environment around cholera, including political leadership, multi-sectoral coordination, alignment to the global roadmap on cholera, and identification and prioritisation of hotspots.

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a) Political leadership and coordination

For most countries (10 out of the 13), leadership for cholera falls to the Ministry of Health, with the involvement of other sectors including WASH, through multi-sectoral coordination platforms and cholera task forces. In a couple of countries, namely Bangladesh and Uganda, there is specific mention of coordination mechanisms at lower levels of government. This decentralisation of coordination is a critical factor to enable effective implementation of multi-sectoral approaches,[5] helping to translate national policy into concrete action at local levels. This analysis however was not able to determine the effectiveness of these coordination structures, or if the WASH sector was actively engaged. For example, the Nigeria plan states that there is a gap in participation of the WASH sector in coordination meetings at all levels, while in Uganda it is noted that there is weak coordination and prioritisation of preventative interventions in most cholera districts – with irregular and poorly attended meetings, and lack of follow-up. The result is that the health sector is often left responsible for cholera control and is limited in its ability to sustain long-term prevention without active involvement of other key sectors and actors.


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Incentivising meaningful engagement from the WASH sector is likely to be a challenge in many countries due to lack of ownership of cholera as a 'WASH-sector issue', competing priorities, and limited capacity, time and resources to actively engage. Overcoming these challenges will be context-specific but may require a combination of efforts to motivate and include the WASH sector. This could mean involving the WASH sector early on in cholera planning to ensure ownership and elevating cholera to a higher political level to convene ministries and mandate coordinated action. The positioning of the national coordination mechanism can be an indication of a government's political will to effectively address cholera, and its ability to effectively coordinate different stakeholders, with high-level positioning likely to support more cross-cutting work.[5] Understanding the priorities and measures of success of different sectors and key stakeholders through regular communication and information-sharing is likely to be important in driving more joined-up approaches.

b) Alignment with *Ending Cholera – A Global Roadmap to 2030*[4]

The 2017 global roadmap to end cholera provides an important framework to guide governments and partners to effectively control and eliminate cholera by 2030. Four out of the 13 country plans analysed align with the global roadmap and its three axes. Of the remaining plans, a number were produced prior to 2017 and/or are intended for response rather than prevention and control, making the assessment somewhat less direct. It is, however, useful to have a snapshot of progress for these 13 countries in terms of updating their plans, integration and coordination of WASH, and with latest recommendations, evidence and normative guidance from the GTFCC and its partners.

c) Identification of cholera hotspots

The analysis found that countries with long-term cholera plans tend to have identified cholera hotspots for which to target multi-sectoral interventions (Bangladesh, Malawi, Niger, Nigeria, Uganda, Zambia and Zanzibar), whereas emergency and response plans tend not to have this mapping of hotspots included. Identifying the populations and communities most at risk can increase the efficiency of control programmes by better prioritising and targeting limited resources,[4] while also helping direct and prioritise international support. This 'hotspot' approach will, however, require improvements in data and surveillance systems to adequately capture cholera data, as well as report this officially to WHO. Furthermore, use of health sector data – such as looking at cholera outbreaks to target and prioritise WASH investments – can overcome some of the challenges associated with an absence of localised WASH data in many of the countries analysed.

Recommendations

- Governments in high-burden countries should elevate cholera as a public health priority requiring action by multiple sectors through strengthening multi-stakeholder coordination platforms, under the leadership of the highest levels of government.
- Countries affected by regular outbreaks of cholera should update their plans, in line with the new global roadmap to end cholera, with adequate attention and resources to long-term preventative approaches, including WASH.
- Governments and partners should strengthen data systems and identify the populations most at risk for cholera, in order to better target hotspots incrementally with priority and integrate cholera control interventions.
- The WASH sector in cholera-affected countries should prioritise and target cholera hotspots for improvements in long-term sustainable WASH, which would have a substantial impact on reducing cholera, but also deliver broad benefits on other health issues, nutrition and reduce inequalities in access to WASH.

WaterAid/Dennis Lupenga

Case study:
Leadership and financing of the Zambia's Comprehensive Cholera Elimination Plan (2018/19–2027/28)

In 2018, the Government of Zambia, led by the Ministry of Health alongside the Government of Haiti, initiated an ambitious effort to raise cholera on the global health agenda through sponsoring a new resolution at the 71st World Health Assembly (WHA71). At the same time, the Government started a process for revising and updating its plan to align with the new global roadmap to end cholera.

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Strong political engagement from the Ministry of Health and the Vice President's office, have translated into the development of a comprehensive plan which brings together all relevant sectors. The plan has a particularly high scoring, in that it includes a broad spectrum of WASH interventions with a detailed budget, which outlines contributions from different ministries and partners, as well as key funding gaps.

It is clear that the process for developing the plan was participatory, inclusive and based on a broad consensus about the need for cholera to be elevated as a public health priority. However, its effective implementation has been stalled by challenges around leadership and coordination, and lack of clear modalities for sustainably financing the plan – especially the WASH components, making up a significant proportion of the plans total budget.

A recent review by WaterAid Zambia on the status of implementation of the plan was conducted based on key informant interviews with stakeholders across the different sectors involved in cholera. The review highlights next steps and recommendations for the Government, which include: 1) undertaking a consultation on the governance structure of the plan; 2) prioritising the assignment of focal points in relevant ministries and clarifying roles in implementation; 3) developing a resource mobilisation strategy to finance the plan; and 4) ensuring alignment with other Government strategies and plans.

Source: Review of the Zambia multi-stakeholder cholera elimination plan (2019–2025) Zambia. WaterAid Zambia, 2019 (not yet published).

Section 2: Integration of WASH into cholera control and prevention

The importance of WASH in efforts to prevent and control cholera has been known for more than a century. This understanding is widely acknowledged in country plans through the inclusion of WASH and by featuring the situational and background analysis in all 13 countries. However, plans vary significantly in the priority given to WASH – in terms of an overarching objective, inclusion of comprehensive WASH interventions, dedicated WASH budget, and clearly articulated roles and responsibility across sector actors.

a) Delivering sustainable and comprehensive WASH services

Comprehensive and sustainable WASH services are the ultimate solution to ending cholera in any setting. This requires working across all levels to improve WASH governance, coordination, planning, monitoring, financing and accountability. Improving WASH services, alongside other cholera control interventions, requires implementation of simple basic measures during outbreaks, as well as planning for longer-term more sustainable approaches in cholera hotspots.

However, while a majority of the plans include some focus on improving comprehensive WASH services, few address all components (i.e. water, sanitation, handwashing, food hygiene) across multiple settings (households, communities and institutions). For example, a few of the plans almost singularly focus on providing clean water during an outbreak. Nepal's plan includes strong interventions related to water and hygiene, but pays little attention to sanitation, and Pakistan and Niger's plans don't address improving WASH in key institutions such as healthcare facilities (HCFs) and schools.


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Diseases like cholera are not limited to household settings, and indeed can spread rapidly in public spaces. In particular, adequate WASH in HCFs and in Cholera Treatment Centres (CTCs) are fundamental to delivering quality patient care and for Infection, Prevention and Control (IPC).[6] However only five countries (Bangladesh, Ghana, Mozambique, Nepal, Zambia) have a specific mention of interventions to improve WASH in HCFs and CTCs. This needs to be integrated as part of efforts to strengthen health systems, looking not only at improving infrastructure, but also hygiene behaviours, and strengthening the enabling environment needed to support monitoring and coordination with the WASH sector, as a core component of quality of care and IPC.

Additionally, many plans favour short-term solutions and control measures during outbreaks and ignore longer-term approaches and critical infrastructure concerns. For example, while the plans for Ghana and Malawi references a number of specific WASH activities (disinfect toilets, chlorinate water storage containers, household water treatment), there is no mention of improving overall WASH infrastructure. Without addressing all aspects of WASH, and looking beyond immediate control to long-term systems strengthening, the sustainability of cholera control and prevention in these countries is unlikely. More work is needed to understand which interventions and actions need to be prioritised in order to move incrementally from 'basic' towards 'safely managed' WASH services for the communities most at risk. This requires a more holistic and comprehensive approach, looking at the multiple disease transmission pathways, such as through food and water, and designing interventions to achieve high coverage (at least 80%) of the population at risk. This will be achieved only by investing in and strengthening government WASH systems, including capacity, coordination, planning and financing, to maintain services over time.[7]

b) Roles of WASH actors in cholera control and prevention

In contrast to the roles of health sector actors in the plans, the roles for WASH actors in cholera control and prevention are often much less detailed. In nearly half of the plans in the analysis, WASH actors were either not explicitly included, or their roles were unclear or poorly defined. Many plans suffered from a lack of detail on who is responsible for carrying out specific WASH activities, as well as confusion over how WASH actors would divide joint activities and coordinate with other agencies and actors.

For example, in Pakistan's plan, WASH is noted as a key part of environmental control and there are WASH-related actions outlined. However, there is no delineation of roles for WASH actors (Ministries of Water or Sanitation, local utilities) in the response and it is unclear how they would participate. Bangladesh's plan outlines that the Bureau of Education is responsible for countrywide hygiene promotion. All other WASH responsibilities are assigned to the Ministry of Local Government, but there are no specifics of who leads what components of WASH in more detail. Similarly, in Nepal's


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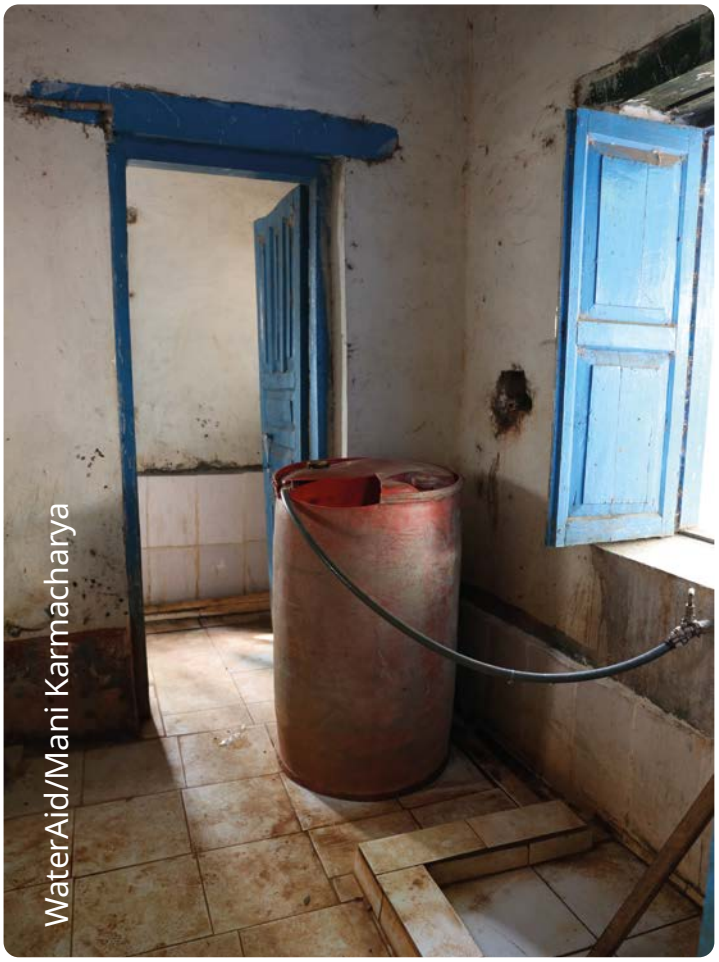
plan, WASH activities and responsibilities are delineated, but often multiple agencies are responsible for a given activity, and it is not clear how the activities would be divided or coordinated among them.

Other gaps include a failure to consider who would lead on implementing WASH activities beyond immediate control interventions, and unclear divisions of responsibility among the national, district/provincial, and local levels. In Mozambique's plan, WASH cluster responsibilities are well-defined for emergency WASH interventions, but no long-term interventions are planned under the responsibility of the Ministry of WASH. In Zambia, while WASH is mentioned, the plan lacks adequate detail on individual WASH activities and which departments or ministries, or external partners, at which level (national, provincial, local) are tasked with delivering on each activity.

Without clear, well-defined roles for WASH actors, there is a risk that WASH activities will be deprioritised, as the health-focused agencies leading the plans might not have the expertise to pursue these activities, or feel that they are outside of their mandate. Confusion over roles also hampers effective coordination between sectors and actors, and could impede the overall success of health sector-led cholera control interventions. For these reasons, it is critical that WASH actors are included when these plans are developed and considered key partners in implementation.

c) Budget for WASH-related interventions

Comprehensive cholera control and prevention is a cost-effective investment. Benefits include savings on health care, time gains due to easier access to water and sanitation facilities, and a reduced incidence of other WASH-related diseases. Recent analysis has shown that targeting WASH interventions to cholera hotspots more than doubles the return on investment for WASH from $4[8] to $10[9] for every $1 invested.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Improved WASH is a key component for cholera control, but also comes with significant costs that must be considered and budgeted for. No matter how ambitious the plan, without adequate funding, progress will stall. Among the plans in our analysis, budgets for WASH activities varied widely. Of the plans that outlined funding for WASH interventions, allocations ranged from 14% (Mozambique's plan) to 68% (Zambia's plan) of the total budget. Some plans, like Mozambique's, only fund emergency WASH activities, and others, like Bangladesh's, focus on household WASH improvements, but neglect to designate funding for WASH in HCFs. Additionally, while many plans included top-line budget numbers for WASH, few broke down how WASH funding would be spent in detail, and the source of this funding. Four countries (Ghana, Malawi, Nepal and Pakistan) included no budget for WASH interventions in their plans.


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d) Integrating WASH interventions with Oral Cholera Vaccine (OCV)

Only three countries (Bangladesh, Nigeria and Zambia) included proposals for joint OCV and WASH activities. The increasing use of OCV in endemic cholera settings provides an important opportunity to effectively link the health sector response with critical WASH interventions needed for long-term prevention and control. In particular, integrating promotion of key hygiene behaviours before, during and after OCV delivery, will ensure a comprehensive response to the disease, helping to strengthen long-term preventative approaches that extend beyond the three-year vaccine life span. Furthermore, growing experience and evidence suggests that integrating vaccines and WASH interventions could improve uptake of vaccines,[10] but also have the potential to improve vaccine efficacy in settings with there is a high burden of enteric infections, thought to compromise the immunogenicity of oral vaccines.[11]

e) Implementation framework

With the exception of Malawi, Mali, Nigeria and Zanzibar, the majority of countries lack a detailed implementation framework to guide priority activities against specific timelines, with clear targets, indicators and budget, and defined roles and responsibilities. The absence of such a framework may hinder adequate implementation of the plans, as well as a systematic process for monitoring progress against a timeline, and where necessary, adapt and modify approaches. Gaps between policies, plans and guidelines, and their associated implementation are well documented,[12] especially when involving multiple stakeholders across different government departments and ministries. Country plans would benefit from detailed implementation frameworks, outlining the roles and responsibilities as they relate to specific activities or focus areas, with clearly defined timelines and targets.

Case study:
Engaging the WASH sector in Nigeria's National Strategic Plan of Action on Cholera Control (2018–2023)

The Government of Nigeria has recently developed a new National Strategic Plan of Action on Cholera (2018–2023), which aligns with the global roadmap to end cholera and it's three strategic axes. The plan clearly articulates the role of WASH in achieving the objectives of the plan, with comprehensive interventions outlined under both axis one on emergency response, and under axis two on long-term prevention, including a focus on both infrastructure and hygiene promotion.

In comparison with other plans, the Nigeria plan is one of the strongest in terms of the criteria assessed in this analysis. In particular, it is one of the few plans which has a detailed implementation framework, which includes specific implementation details and areas, targets and timeframes. The leadership and coordination of cholera lies under the Nigeria Centre for Disease Control and the National Primary Health Care Development Agency, with proposals to develop multi-stakeholder platforms in hotspot states. Although the WASH sector is identified as key stakeholders, it is stated that there is currently poor participation of the WASH sector in coordination meetings at all levels. This urgently needs to be addressed in order for the WASH sector to more actively engage in both national and local multi-stakeholder platforms, critical to ensure coordinated and sustained action on WASH as the ultimate and long-term solution to prevent cholera.

WaterAid Nigeria are working in Bauchi State, where cholera has persisted for many years, to strengthen the engagement of the WASH sector, and support coordination with the health sector in cholera control. There is however a need to translate the national plan into a concrete action plan at state level, with clear roles and responsibilities across the different actors to drive progress and implementation.

WaterAid/Onome Oraka

Conclusion

The launch of the new global roadmap to end cholera in 2017 provides renewed momentum and impetus to eliminate this ancient disease. It is unacceptable that cases and deaths of cholera continue to persist in the 21st century, especially when the solutions have been known for more than 100 years. Furthermore, targeting hotspots has the potential to not only bring an end to cholera, but to provide a useful approach to guide limited resources to those who need them most, helping to deliver an equitable and efficient approach to the Sustainable Development Goals (SDGs). As the world enters the final 10 years of the SDGs, new ways of working and improvements to working across multiple sectors and actors will be fundamental to achieving these goals. Governments and their partners must act now to ensure WASH is central to efforts to prevent and control cholera, which will make elimination of this disease not only possible, but will catalyse improvements across multiple domains of sustainable development.

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